DEQ Wind Energy Regulatory Advisory Panel (Wind RAP)
November 16, 2009 Meeting
Final Meeting Notes

Location: **DEQ Central Office, 2nd Floor Conference Room**
629 E. Main Street, Richmond, VA 23219

Start: 9:45 am
End: 3:11 pm

RAP Lead/Facilitator: Carol Wampler, DEQ
Recorder: Debra Miller, DEQ
Gary Graham, DEQ

RAP Members Present:
John Daniel, Troutman Sanders
Stephen Versen, VDACS
Tony Watkinson, VMRC
Ronald Jenkins, DOF
Judy Dunscomb, TNC
Larry Jackson, Appalachian Power
James Golden, DEQ
Nikki Rovner, Deputy SNR
Bob Bisha, Dominion
Julie Langan, DHR
Ray Fernald, DGIF
Theo deWolff, Independent Developer
Ken Jurman, DMME
J. Christopher Ludwig, DCR (alternate)
Dan Holmes, PEC
Larry Land, Virginia Assoc. of Counties

RAP Members Absent:
Tom Smith, DCR (alternate present)
Mary Elfner, Audubon
Jayme Hill, Sierra Club-VA Chapter
Jonathan Miles, JMU

Guests: Cindy Berndt, DEQ

Public Attendees:
Roger Kirchen, DHR (alternate)
David Phemister, TNC (alternate)
Larry Nichols, VDACS (alternate)
Richard Reynolds, DGIF (alternate)
Robert Hare, Dominion
Don Giecek , Invenergy (alternate)
Jim Madden, BP Wind
Hank Seltzer, BP Wind

Agenda Item: Welcome & Introductions

Discussion Leader: Carol Wampler
Discussion: The RAP members and other attendees were welcomed. Attendees introduced themselves. The agenda for the day was reviewed briefly and a recap of the issues from the previous meeting. For instance, some of the issues noted by the landscape subcommittee are for local government. Regarding other natural resources (those specifically discussed were forest, agricultural, and scenic resources), these will be analyzed but there is no authority to require mitigation based on the statutory language. Mitigation would be voluntary using best management practices. The group was asked if there were any questions or concerns about the summary of the 11/13/09 meeting and no concerns were noted.

The objective of today's meeting was reiterated to the group. The goal is to get through concerns about post-construction monitoring of wildlife and mitigation of wildlife impacts and discuss any concerns about historic and cultural resources. But first, the group will take about 30 minutes to discuss de minimis exemptions. We will also take a few minutes to discuss the need for work sessions and whether or not the RAP should be temporarily disbanded during the work-session period.

Agenda Item: Discussion of De Minimis Exemption Issue

Discussion Leaders: Ken Jurman, DMME; David Phemister, TNC; Carol Wampler, DEQ
Discussion: David provided TNC's views regarding the issue of a de minimis standard. The RAP was reminded that the OAG's informal advice is that the statute does not provide for a de minimis exemption. But it might be possible to do something similar with the definition of "facility." A more legally-defensible solution would be to have it addressed in the next legislative session. Last December the SCC amended its wind project application process to include a de minimis exemption for projects of 5MW or less. RAP general subcommittee supports a de minimis level (no consensus on the level – 500kW was a non-consensus recommendation). The General Subcommittee discussion was deferred for the plenary RAP to take up. Based on review of the issue, the options appear to be:

- Provide no de minimis standard
- Set the de minimis standard at 500 kW and less
- Set the de minimis standard at 500 kW and less but provide for a streamlined/tiered requirements for up to 5 MW
- Set the de minimis standard at 5 MW and less.

DMME commented that SCC has a process in place for less than 5 MW, and to require more than that would circumvent the streamlined approach of this SCC process. 5 MW de minimis would provide continuity with the SCC de minimis level. Choosing another level would be disruptive. Some noted that they disagree with OAG's assessment concerning de minimis and would like to see a written analysis forthcoming from the OAG.

The other RAP members also expressed concerns and had additional comments:

- 5 MW de minimis would provide continuity with the SCC de minimis level. Choosing another level would be disruptive.
- Disagreement with AG's assessment concerning de minimis was noted. Would like to see a written analysis forthcoming from the AG's office.
- The utility-sized project is not the strongest market for wind projects; community and distributed energy projects are. It was noted that community wind projects are a growing sector, especially for the eastern coast, and that efforts should be made to support this growing sector of wind energy development.
- How about a de minimis based upon sites below a certain wind class? Maybe class 3 wind areas and below.
- Possible candidates for a de minimis treatment (exemption or streamlining) could be projects that directly reduce pollution such as a facility dedicated to a waste treatment plant, or projects on sites that are not likely to have nearby communities, wildlife or cultural resources, such as landfills, and dairy or poultry farms.
- How about a 5 MW de minimis, with larger facilities also eligible if a consultant finds the site "clean" after the Phase I assessment (i.e. no significant adverse impact)?
- Impact on wildlife is more likely related to the location of the project than size. There is no de minimis project size that has no adverse impacts. (Contrary opinion expressed: Anecdotal

evidence does not support the assertion that small projects have an impact on wildlife.) (Supporting opinion expressed: There are small sites that are shown not to have adverse impacts, but there are also small sites that do kill bats.)

- Size of the project is related to the adverse impact on historic and cultural resources, so a de minimis level based upon size would have meaning. However, the location of the site is not. Adverse impacts to historical and cultural sites are just as likely to occur in urban and developed areas as in rural areas and sites of archeological importance can potentially be just about anywhere.
- How about a de minimis on height of the project instead of generating capacity?
- What about an expedited process for these de minimis project applications instead of an exemption; a process that requires no studies before the application is processed and approved, but if impacts occur after operation begins, then there is mitigation.

The group was then asked to consider the options provided by TNC. There was consensus that some type of de minimis standard should be supported by the RAP and that level should be at least 500 kW. However, the group could not come to consensus on setting a de minimis level above 500 kW.

There is consensus that the regulation should have a de minimis level and that a de minimis level for projects of 500 KW or less is acceptable to all of the RAP attendees.

The other options were discussed:

- ✓ A de minimis exemption for projects at 500 KW and below, and some lesser tiered level of studies and review for projects between 500KW and 5 MW. (12 of 16 attendees concurred.)
- ✓ A de minimis level for projects at 5 MW and below similar to the SCC de minimis level. (7 of 16 attendees concurred.)
- ✓ A "clean site" or "relevancy" exemption for facilities that show no adverse impacts after the preliminary desktop studies are completed. If during construction, or during post-construction monitoring, actual adverse impacts become evident, then mitigation is required. (14 of 16 attendees concurred.)

Agenda Item: Subcommittee Recommendations & Related Issues - Wildlife

Discussion Leaders: Carol Wampler, DEQ; Judy Dunscomb, Living Resources Subcommittee Chair
Discussion: The group reviewed the discussions from the 11/12/09 meeting and continued discussion of issues for the wildlife mitigation plan, including possible numeric standards for wildlife mitigation/post-construction monitoring and wildlife fatality.

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Review of Section 5, Subsection B.4 [lines 366-373 in the revised working draft] describes two options for mitigation of significant adverse impacts on bats, if any; (1) curtailing operation to reduce bat mortality to an average of 10 bats/turbine/yr for the entire project or (2) curtailing operation to maximize the reduction of bat mortality up to a cost of $5000/turbine/yr.

Note: Mitigating bat mortality is not the only wildlife mitigation effort required. Proposed subsections B.2 and 3 also require mitigation for state threatened and endangered species in compliance with DCR and

DGIF recommendations and, also mitigation for songbirds and raptors ("all reasonable measures to minimize adverse impacts").

The group considered the financial cap with an explanation of the financial cap which follows (see white paper titled "Post Construction Monitoring and Mitigation Costs."):

> There is a relationship between the number of turbines operating and bat mortality, and there is much less of a relationship between turbine size and bat mortality. So it makes more sense to express any financial cap in terms of the number of turbines instead of the size of the project. There is also a relationship between wind speed and bat mortality because bats are not as likely to fly at higher wind speeds. So curtailing operations at low wind speeds (3-5 m/sec), and at the times during the day that bats normally are active (sunset to sunrise), has a greater impact on reducing bat mortality than other reasonable mitigations currently considered. Some generating capacity is lost by curtailing operations at the low end of wind speed; about 3% for raising the cut-in speed (for beginning operation) to 5 m/sec. The expected cost of curtailment studies in the first year of operation (in terms of studies and curtailment lost revenue) is in the range of $4000 - $12,000 per turbine. Once the most effective curtailment plan is implemented, the expected mitigation cost (curtailment and studies) drops to $4200/turbine/yr. A cap of $5000/turbine/yr provides an additional $800 per turbine annually to cover other monitoring and mitigation costs. This $5000 cap represents a loss of 1% to 2.5% of total annual revenues, which is high but reasonable in this low return, high capital investment industry. This cap would be adjusted annually for inflation.

Based on this explanation, the following comments and concerns were noted:

- There was reiteration of the last meeting's concerns about the lack of a definition of "wildlife." (Contrary opinion expressed: the draft has a definition of "wildlife" [lines 84-88]). There is a concern that the unlimited cost "dialing-in" studies might take more than the first year after commencing operation. It might be better to key the annual $5000/turbine cap period to the anniversary of the completion of those "dialing-in" studies without regard to how much or little time that effort takes.
- The $5000 cap seems low for mitigating bat mortalities, which could be very high and would, therefore, remain high, especially for an industry that has little annual cost and is mostly profit once operation begins. It seems like it would make more sense to include the probability of bat mortality as a site screening requirement. However, there was contrary opinion expressed to this comment in that industry thinks the cap is generous considering the low annual return expected on these types of projects.

The group was asked if there Is there consensus on the concept of the $5000 annual cap as presented and in the Draft approach in lines 366-373? There was no consensus. 12 of 16 attendees concurred with the concept.

There was additional discussion and comments and concerns noted:

- The lack of a cap on the first year of operation while the "dialing-in" studies are underway contributes to uncertainty and disadvantages the smaller projects unfairly. Since there are no such mitigation requirements in other states, a lack of such a cap would reduce the attractiveness of Virginia sites to developers.

- The PBR should take into account offsets to pollution such as carbon, NOx, SOx. (Contrary opinion expressed: allowing the PBR process itself is an acknowledgment of the reductions in air pollution.)
- How would the $5K/turbine be defended? In Highland, the SCC record is used. However, the DEQ is a regulatory agency and cannot use that type of process to develop a record. If a cap is used, it was noted that there may be objections to the cap.

The group was then asked that if there are objections to the cap, are the subcommittee members willing to work on other options?
It was noted that the other options would be prohibitively complex and the likelihood of reaching consensus would be very unlikely. It was also asked if the subcommittee considered the benefits when looking at the costs (2 MW turbine reduction of 5000 tons of CO2). The response was that the displacement of CO2 is hard to determine (NAS could not do this). The statute does call for review of beneficial impacts but this has not been reviewed by any subcommittee. The thought was that the applicant would provide the benefits (air quality, wildlife, GHG, etc..) and to not prescribe how it shall be done.

The group then considered the bat mortality threshold (see white paper titled: "Maximum Wildlife Fatality Goals for Bats and Birds"):

> If mitigation is required on the basis of efficiency or "maximizing avoided bat mortality," then a measure of how successful the mitigation is, is necessary. The "10 bats" number was based upon a recommendation by DGIF (see white paper and DGIF responses below).

Based on this explanation, the following comments and concerns were noted:

- Concerns with having a specific mortality number as a goal:
  - How will the number of fatalities be counted. Is it clear enough in the PBR? (i.e. how much of the remains would count as 1 bat, would old remains count as a new fatality, what about predator kills - are they still a turbine fatality?)
  - Failure to meet that bat mortality number because of the $5000 cap would be a public relations nightmare for the operator.
  - There is a financial risk associated with not meeting a 10 bat threshold, so getting financing would be more expensive and less likely.
  - There is no scientific basis for that number, so the right number to use can't be determined. Could it withstand a court challenge?
  - Such a number would set a precedent for the industry without an adequate basis.
- Response by DGIF to some of those concerns:
  - This number sets an objective for mitigation without implying anything about not meeting it.
  - Using a definite number as an objective, along with a $5000/turbine cap, has the potential for saving an efficient developer/operator a lot of money annually.
  - The number set is achievable based upon studies.
  - A specific number provides an incentive for maximizing efficiency of the mitigation effort.
  - The number would reinforce a precedent, but that precedent was already set by the Highland case (see the white paper). This number has already been argued in court and achieved a settlement.
  - The number is not the result of hard science, but it is the best available from information developed in 4 states. It is based upon a species of tree bats commonly found in more

mountainous areas: the small-footed myotis. Populations of this bat tend to be stable and large. The mortality goal number is based upon unmitigated kills of Appalachian bats - 20-60 kills per turbine and the mitigation number was 9.1 bats in that case. 10 bats was chosen by DGIF as the nearest whole number above 9.1.

- Need to address threatened species (bats) and species of greatest conservation need (birds). For birds, recommend a different number (7) or a species-dependant number. For raptors, a much lower number would be needed, so DGIF prefers using replacement cost.

The group continued the discussions and voiced additional concerns on the mortality numbers:

- Perhaps it would be appropriate to rephrase the language so that there is a second option, e.a. when you get to 10 bats/yr another action is required.
- The number (10 bats) sets the developer/operator up to be perceived as being noncompliant or adverse to sustainable bat populations. This PR disadvantage works against the operator in the court of public opinion and for getting investment money.
- The fear of bad PR about higher bat mortality numbers will steer development toward low bat population areas, which is a good thing.
- FACA guidelines don't provide numbers, they just say go to the state wildlife agency, but any such numbers must be up front.
- The statute requires measurement.
- If measured at all, it must be compared with the Highland decision criteria (9.1 bats/yr). It is really the only number available.
- Even though DEQ is not concerned with bad PR associated with "bat-killing," industry has to pay attention.
- The developer/operator will be monitoring, but preconstruction monitoring will not necessarily predict where mortality problems will occur, so they can't target areas for development very well.
- Proposed language says the operator has the option of accepting the limits. Can stop at $5000 cap or continue to mitigate to below the 10 bat threshold.
- Mitigation number of 10 bats may not be valid any more. When the Highland decision was being argued, white-nose fungus was not a problem in that area. Since then, white-nose fungus has decimated area populations, making the populations more sensitive to turbine mortality. And with populations in flux, what does a hard number written into regulation achieve?

The following options were put before the group:

- Financial cap with a 10 bats option: 4 votes in favor.
- 10 bats per turbine number: 7 voted in opposition to the 10 bats number.

Agenda Item: Structural Options for Future Work Sessions

Discussion Leader: Carol Wampler, DEQ; Cindy Berndt, DEQ

Discussion: The RAP members and other attendees were presented with options for scheduling and structuring future work sessions. The new public participation model calls for disbanding the RAP at some point. The RAP is a public body and has to adhere to requirements for meetings: meetings must be

publically announced in advance with proper notice, there are public access requirements for meetings, a quorum is required in order to make formal decisions, notes are subject to FOIA and minutes must be published. Do we want to keep the RAP operating as work sessions are conducted to discuss the draft proposal in more detail? There are quorum issues that will slow down the work process if we retain the RAP. If the RAP is gone, we will still announce meeting and provide public access. The intent would be to reconvene the RAP when the product is ready for final RAP review. This will buy some flexibility and move the process along. Our goal is to finish the product in January.

The group discussed the issue. Comments and concerns noted were:

- There is a concern about keeping the proper balance of representation on workgroups. Keeping the RAP intact would retain the perception that each interest group is represented as the regulatory language is considered.
- Voting: Proposal is to keep the RAP intact. Ayes carried the proposal. (No count taken.)

The RAP decided to continue as a RAP through the work sessions.

RAP broke for lunch at 12:36 and reconvened at 1:35 p.m.

Agenda Item: Subcommittee Recommendations & Related Issues – Wildlife (cont.)

Discussion Leaders: Judy Dunscomb, Living Resources Subcommittee Chair; Nikki Rovner, Deputy SNR

Discussion: The group continued to discuss wildlife mitigation. Post-construction monitoring language was summarized (see discussion draft). The post-monitoring includes studies for optimizing mitigation and monitoring after mitigation to determine efficacy. The concept is to allow this plan to be adaptive to the needs after the facility is constructed. The group had no questions related to specifics of this section.

Agenda Item: Subcommittee Recommendations & Related Issues – Historic Resources

Discussion Leaders: Julie Langan, DHR; Nikki Rovner, Deputy Secretary of Natural Resources

Discussion: The working document for historic resources was handed out to the group. DHR provided a review of the sections (see *Working Document for Historic Resources*).

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The RAP was presented the information by DHR. DHR's draft document requests the applicant to:

- Obtain information about historic resources already known within 5 miles of the project.
- Evaluate impacts to archeological resources within the construction disturbance zone.
- Evaluate impacts to architectural and landscape resources within 1.5 miles of the project.

Based on the information presented, the group noted comments and concerns regarding the historic resources proposed language:

- Paragraph 3 should be combined with paragraph 2, or these two should be separated from paragraph 1, so that investigations are separate from evaluations. Make a new section for assessing the effects.
- It needs to be clearer what DEQ does with this information and how it makes a finding of significant adverse impacts.
- The concept of viewshed is rather subjective and makes mitigation difficult. Is mitigation all or nothing? Will vegetative screens work in all cases? What is enough?

  - DHR response: DHR will make that determination. DHR is not unreasonable and in large part it depends upon the integrity of the resource. If the project is 5 miles outside of the resource, DHR isn't going to look at it unless other issues are raised in the public comment period. If other state's historic resources are impacted, there will need to be cooperation between the states' sister agencies to resolve.
- What might be required as mitigation for a finding of significant impact?
  - DHR response: There are lots of possibilities. Sometimes it comes down to service provided or a cash proffer.
- When there is a finding of significant adverse impact, how does negotiation of the mitigation fit into a PBR?
  - DHR response: Ideally, if such a finding is likely, come to DHR early and work it out.
- Would a pre-negotiated settlement plan then be submitted as an attachment to the application (if pre-application consultation is made)?
  - DHR response: Yes, that would work best if there is pre-application negotiation.
- What if the applicant does their homework and submits an application with a mitigation plan without a pre-negotiated settlement. Any chance of a 30-day review?
  - DHR response: If a plan comes in attached to the application without pre-application negotiation, 30 days would not be enough time to review it.

DHR noted that they are still reviewing the options for how to deal with their need for pre-application negotiations as it would be difficult (and may not be possible) to work into a PBR process. As this may not be incorporated into the PBR regulatory framework, the pre-application issue is not yet resolved on when/if it is necessary, and how to incorporate into process (i.e., guidance?).

The meeting was adjourned at 3:11pm.